



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,296	08/14/2006	Peter Schramm	253561	6942
23460 7590 03/21/2008 LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6731				
EXAMINER				
RAMOS, JAVIER J				
ART UNIT		PAPER NUMBER		
4142				
MAIL DATE		DELIVERY MODE		
03/21/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,296

Applicant(s)

SCHRAMM, PETER

Examiner

JAVIER J. RAMOS

Art Unit

4142

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 8/14/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 8-14 are pending in this application.
2. Acknowledgment is made of the preliminary amendment to the specification submitted on **8/14/2006**.
3. Claims 1-7 have been cancelled [8/14/2006].

Priority

4. Acknowledgment is made that this application is a national stage filing under 35 U.S.C. 371 of international application no. **PCT/EP05/01438** filed on **2/12/2005**.
5. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based on German Patent Application No. **10 2004 009 271.0** filed on **2/28/2004**.

Drawings

6. The drawings are objected to because *the unlabeled rectangular boxes shown in figure 1 should be provided with descriptive text labels, the numbers within the graph of figure 2 are illegible and figure 2 contains handwriting*.
Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as

"amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

7. The information disclosure statement (IDS) filed on **8/14/2006** fails to disclose information properly by attaching a PTO-1449 form to the submission. The examiner has not considered any material in relation to the submitted IDS documents. Appropriate correction is required.

Claim Objections

8. Claim 10 is objected to because of the following informalities: The preamble which reads "**3. A** method according to..." in claim 10 should read "**The** method according to..." Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. In regards to claim 12, the preamble of the claim states "[a] method according to **one or more of** claim 8" is unclear. For the sake of compact prosecution, claim 12 is treated as depending on the independent claim 8. Appropriate correction is required.

12. In regards to claim 14, the preamble of the claim states "[a] method according to **one or more of claims1**" is unclear. For the sake of compact prosecution, claim 14 is treated as depending on the independent claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 8-10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, US Patent No 5,031,534 [hereafter Brunner], published on Jul 16, 1991 in view of Soler et al., US Application No 2003/0030828 A1 [hereafter Soler], published on Feb 13, 2003.**

15. In regards to claim 8, Brunner teaches a method for color correction in printing machines (**Col. 2, Lines 12-57**), comprising: (a) executing separately one after the other for individual process colors involved in an autotype combination printing (**Col. 2, Lines 12-25, Lines 51-57, “running again, one or more times, through the above-described process steps for every printing ink”**); changing only the color supply of a single process color (**Col. 2, Lines 12-28, “change he makes in an adjuster”**); determining the effect of the change in the color supply of this one process color on color values of a color spot to be measured (**Col. 5, Lines 26-30, Lines 38-52, use of the densitometer**);

It is noted however, that Brunner does not specifically teach storing a corresponding color spot for this color; (b) balancing all of the measurement values determined and stored in step (a) with each other so that for further color

Art Unit: 4142

correction, a few or all of the process colors involved in the printing can be adjusted simultaneously.

On the other hand, Soler teaches storing a corresponding color spot for a color (**Page 2, [0048]; Page 3, [0051], “data storage device”; Fig. 7, Step 713, adding new color in the data book**) and balancing all of the measurement values determined and stored with each other so that for further color correction, a few or all of the process colors involved in the printing can be adjusted simultaneously (**Fig. 7, Step 709, manual evaluation of printed color map**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the color spot measuring and storage technique of Soler into the color correction method of Brunner because both Brunner and Soler are directed to manipulating color in printing machines (**Brunner: Abstract; Soler: Abstract**); further, both Brunner and Soler are directed towards calibration of a printing machine (**Brunner: Abstract; Soler: Abstract**); and both Brunner and Soler are in the same field of endeavor.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the color spot measuring and storage technique of Soler into the color correction method of Brunner because the color spot measuring and storage technique of Soler would allow users of Brunner to more easily observe the specific changes in color through the usage of color spots and visual inspection and to save determined calibrated color spot values for future use.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the techniques of Soler into the method of Brunner in order to achieve the predictable result of being able to visually balance and store color calibration levels for the printing device using a combination of both visual and digital inspection techniques.

16. In regards to claim 9, Soler teaches during the printing at least one color spot is measured (**Fig. 4, Step 401, "Scan patch color using internal scanner device of printer"; Fig. 7, Steps 702-703**), wherein for this measurement at least one actual chromaticity position is determined (**Fig. 7, Step 704, "CIEL*a*b value"**), and that the actual chromaticity position or each actual chromaticity position is compared with a corresponding desired chromaticity position (**Fig. 7, Step 705; Page 4, [0062], Lines 15-29, "a set of CIEL*a*b* variations are generated for colors surrounding the input color"**), wherein the color correction is performed when the actual chromaticity position deviates from the corresponding desired chromaticity position (**Fig. 7, Step 709; Page 4, [0062], Lines 32-40, "user manually evaluates the color spots visually, and selects a color spot"**).

17. In regards to claim 10, Brunner teaches control waits in step a) until a balanced state has been reached after a color supply of the corresponding color to be printed has been changed (**Col. 2, Lines 12-25, "the operator must wait for several hundred impressions until the new ink feed has stabilized"**).

18. In regards to claim 12, Brunner teaches in step (a), for each process color to be printed, the effect of the isolated change in a color supply of each process color on the chromaticity position of the color spot to be measured, is measured separately one after the other in time **(Col. 2, Lines 51-57, “running again, one or more times, through the above-described process steps for every printing ink and color area involved”)**.

19. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, US Patent No 5,031,534 [hereafter Brunner], published on Jul 16, 1991 in view of Soler et al., US Application No 2003/0030828 A1 [hereafter Soler], published on Feb 13, 2003 as applied to claim 8 further in view of Fujimori, US Patent No 6,181,892 B1 [hereafter Fujimori], published on Jan 30, 2001.

20. In regards to claim 11, Brunner, as modified by Soler, teaches a method according to claim 8 and determining the measurement values of the chromaticity position or each chromaticity position in step a) **(Soler: Fig. 7, Step 704, “CIEL*a*b value”)**.

However, Brunner, as modified by Soler, does not specifically teach at least one value is measured after a certain time period or at certain time intervals and control locks the changing balanced state through extrapolation.

On the other hand, Fujimori teaches at least one value is measured after a certain time period or at certain time intervals and control locks the changing balanced state through extrapolation (**Figs. 2A-2B, 4**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the time shifted measurement method of Fujimori into the color correction method of Brunner, as modified by Soler, because both Brunner, as modified by Soler, and Fujimori are directed towards a printing device (**Brunner: Fig. 1; Fujimori: Fig. 1**); further, both Brunner, as modified by Soler, and Fujimori are directed towards color manipulation in halftoning devices (**Brunner: Abstract; Fujimori: Abstract**); and, both Brunner, as modified by Soler, and Fujimori are in the same field of endeavor.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the time shifted measurement method of Fujimori into the color correction method of Brunner, as modified by Soler, because the time shifted measurement method of Fujimori would allow the method of color correction of Brunner, as modified by Soler, to allow the ink sources to attain more stable levels before color measurement occurred.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the time shifted measurement method of Fujimori into the color correction method of Brunner, as modified by Soler, to yield the predictable result of increasing the long term accuracy of the color measurements due to a more stable state being reached between measurement times.

21. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner, US Patent No 5,031,534 [hereafter Brunner], published on Jul 16, 1991 in view of Soler et al., US Application No 2003/0030828 A1 [hereafter Soler], published on Feb 13, 2003 as applied to claim 8 further in view of Sullivan et al., US Patent No 5,070,413 [hereafter Sullivan], published on Dec 3, 1991.

22. In regards to claim 13, Brunner as modified by Soler, teaches a method according to claim 12, wherein it is determined how the corresponding chromaticity position shifts when changing the color supply of each process color **(Soler: Fig. 7, Steps 704-709; Page 4, [0062], Lines 32-40, “user manually evaluates the color spots visually, and selects a color spot”).**

However it is noted that Brunner, as modified by Soler, does not specifically teach the magnitude and direction of a color vector are determined from the chromaticity positions before the color change and after the color change.

On the other hand, Sullivan teaches the magnitude and direction of a color vector are determined before the color change and after the color change **(Col.**

2, Lines 8-34; Col. 4, Lines 50-67, the \vec{v}_{ij} vector represents the before value and the \vec{u}_{ij} vector represents the post change value).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the vector operation methodology of Sullivan into the

Art Unit: 4142

color correction method of Brunner, as modified by Soler, because both Brunner, as modified by Soler, and Sullivan are directed towards manipulation of color data values in a color space (**Soler: Fig. 7; Sullivan: Col. 2, Lines 8-34**); further, both Brunner, as modified by Soler, and Sullivan are directed towards color manipulation in halftoning devices (**Brunner: Abstract; Sullivan: Col. 1, Lines 13-16**); and, both Brunner, as modified by Soler, and Sullivan are in the same field of endeavor.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the vector operation methodology of Sullivan into the color correction method of Brunner, as modified by Soler, because the vector operation methodology of Sullivan would allow the method of color correction of Brunner, as modified by Soler, to more accurately and easily manipulate values within a color space with regards to calibrating the printing machine to output desired colors.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the vector operation methodology of Sullivan into the color correction method of Brunner, as modified by Soler, to yield the predictable result of gaining the ability to use vector operations in color space correction.

23. In regards to claim 14, Brunner, as modified by Soler, teaches a method according to the independent claim 8 which includes the determined and stored measurement values according to step (b) (**Soler: Fig. 7, Step 713, adding new color in the data book**).

However, Brunner, as modified by Soler, does not specifically teach that measurement values are balanced through vector operations.

On the other hand, Sullivan teaches that measurement values are balanced through vector operations (**Col. 2, Lines 8-34, "input and output colors as three-dimensional vectors in a preferred color space and selecting the output color at each pixel that is closest in a p-norm distance sense"**).

Conclusion

The prior art made of record:

- | | | |
|----|-------------------|-----------------|
| a. | US Patent No | 5,031,534 |
| b. | US Application No | 2003/0030828 A1 |
| c. | US Patent No | 6,181,892 B1 |
| d. | US Patent No | 5,070,413 |

The prior art made of record, but not relied upon:

- | | | |
|----|--------------|--------------|
| e. | US Patent No | 6,611,357 B2 |
| f. | US Patent No | 5,537,516 |
| g. | US Patent No | 5,481,380 |

Art Unit: 4142

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAVIER J. RAMOS whose telephone number is (571) 270-3947. The examiner can normally be reached on Monday to Thursday - 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Srirama T. Channavajjala can be reached on (571) 272-4108. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJR
Patent Examiner

***/Srirama Channavajjala/
Supervisory Patent Examiner, Art Unit 4142***